

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

What is claimed is:

1. (Currently Amended) A device for generating a random sequence of bits ~~[[(10)]]~~, comprising:

~~an oscillating means having an input terminal (400) for receiving a bias as input, characterized in that the oscillating means (13) comprises~~ comprising ~~at least one oscillator amplifier; (400a, 400b, 400c) and a differential amplifier (500) connected to said oscillator amplifier,~~

amplifying means comprising each the at least one oscillator amplifier (400a, 400b, 400c) and [[the]] a corresponding at least one differential amplifier (500) comprise ~~an amplifying means coupled to each the at least one oscillator amplifier;~~

a load (303a, 303b; 403a, 403b) protected from interfering signals by means of a load being (301a, 301b, 302a, 302b; 401a, 401b, 402a, 402b) connected to said coupled to the amplifying means and a power supply[[,]]; the load being adapted to protect the amplifying means from interfering signals; and

a tail current source (304a, 304b; 404a, 404b) connected to said coupled to the amplifying means and grounding means.

2. (Currently Amended) The device according to claim 1, wherein the number of oscillator amplifiers ~~(400a, 400b, 400c)~~ is odd and greater than one, and ~~[[said]] the oscillator amplifiers are connected~~ coupled in series.

3. (Currently Amended) The device according to claim 1 ~~[[or 2]]~~, wherein the amplifying means further comprises a common-source amplifier ~~(303a, 303b; 403a, 403b).~~

4. (Currently Amended) The device according to claim 3, wherein the common source amplifier further comprises transistors ~~(303a, 303b; 403a, 403b)~~ having a differential topology.

5. (Currently Amended) The device according to ~~any of the previous claims,~~ claim 1 wherein the load comprises cascoded transistors ~~(301a, 301b, 302a, 302b; 401a, 401b, 402a, 402b)~~ connected coupled to the amplifying means ~~(303a, 303b; 403a, 403b).~~

6. (Currently Amended) The device according to ~~any of the claims 1-4,~~ claim 1 wherein the load comprises ~~resistors connected~~ at least one resistor coupled to the amplifying means ~~(303a, 303b; 403a, 403b).~~

7. (Currently Amended) The device according to ~~any of the previous claims,~~ claim 1 further comprising grounding means, wherein the tail-current source ~~(304a, 304b; 404a, 404b)~~ is connected coupled to the amplifying means ~~(303a, 303b; 403a, 403b)~~ and the grounding means adapted to provide common-mode feedback.

8. (Currently Amended) The device according to ~~any of the claims 1-5 or 7,~~ claim 1 wherein the load ~~(301a, 301b, 302a, 302b; 401a, 401b, 402a, 402b),~~ the amplifying means ~~(303a, 303b; 403a, 403b)~~ and the tail-current source ~~(304a, 304b; 404a, 404b)~~ comprise MOS (Metal Oxide Semiconductor) transistors.

9. (Currently Amended) The device according to ~~any of the claims 1-5 or 7,~~ claim 1 wherein the load ~~(301a, 301b, 302a, 302b; 401a, 401b, 402a, 402b),~~ the amplifying means ~~(303a, 303b; 403a, 403b)~~ and the tail-current source ~~(304a, 304b; 404a, 404b)~~ comprise BJT (Bipolar Junction Transistors) transistors.

10. (Currently Amended) The device according to ~~any of the claims 1-5 or 7-8,~~ claim 1 wherein the load ~~(301a, 301b, 302a, 302b; 401a, 401b, 402a, 402b)~~ comprises

PMOS transistors and the amplifying means ~~(303a, 303b; 403a, 403b)~~ and the tail-current source ~~(304a, 304b; 404a, 404b)~~ comprise NMOS transistors.

11. (Currently Amended) The device according to ~~any of the claims 1-5 or 7-8,~~ claim 1 wherein the load ~~(301a, 301b; 302a, 302b; 401a, 401b; 402a, 402b)~~ comprises NMOS transistors and the amplifying means ~~(303a, 303b; 403a, 403b)~~ and the tail-current source ~~(304a, 304b; 404a, 404b)~~ comprise PMOS transistors.

12. (Currently Amended) The device according to claim ~~10 or~~ 11, wherein the width-over-length ratio $[[Z]]$ of the transistors ~~(303a, 303b; 403a, 403b)~~ of the amplifying means is at least 3 times the width-over-length ratio of the transistors of the tail-current source ~~(304a, 304b; 404a, 404b)~~, and the width-over-length ratio of a second transistor pair ~~(302a, 302b; 402a, 402b)~~ of the load is at least 3 times the size of the width-over-length ratio of a first transistor pair ~~(301a, 301b; 401a, 401b)~~ of the load.

13. (Currently Amended) The device according to claim 12, wherein the width $[[W]]$ of the transistors ~~(303a, 303b; 403a, 403b)~~ of the amplifying means and the transistors of the second transistor pair ~~(302a, 302b; 402a, 402b)~~ is in the range of 2.5-125 μm , and the length $[[L]]$ of ~~[[said]]~~ the transistors is in the range of 0.25-12.5 μm ; the width $[[W]]$ and the length $[[L]]$, respectively, of the transistors ~~(304a, 304b; 404a, 404b)~~ of the tail-current sources and the transistors of the first transistor pair ~~(301a, 301b; 401a, 401b)~~ of the load are in the range of 0.25-12.5 μm .

14. (Currently Amended) The device according to ~~any of the claims 1-13,~~ wherein the device is claim 1 further comprising a voltage controlled oscillator (VCO) having an input terminal, the input terminal ~~(409)~~ is coupled ~~connected~~ to a noise source $[[11]]$.

15. (Currently Amended) The device according to ~~any of the claims 1-13,~~ wherein the device is claim 1 further comprising a current controlled oscillator (CCO)

having an input terminal, the input terminal (409) ~~is connected~~ coupled to a noise source ~~[[(11)]]~~.

16. (Currently Amended) The device according to ~~any of the claims 1-15,~~ claim 1 wherein the input terminal (409) for receiving a bias input is ~~connected~~ coupled to a ~~device for generating a noise signal, comprising a~~ noise source ~~[[(11)]]~~ for generating intrinsic noise, ~~[[said]] the~~ noise source ~~comprises an~~ comprising a noisy amplifier cell (100) having an amplifying means (103a, 103b), a load (101a, 101b, 102a, 102b) ~~connected~~ coupled to ~~[[said]] the~~ amplifying means and supply, and a tail-current source (104a, 104b) ~~connected~~ coupled to grounding means and to the amplifying means (103a, 103b).

17. (Currently Amended) ~~An~~ The device according to claim 1, further comprising an electronic apparatus (4) ~~comprising a device (10) for generating a random sequence according to any of the claims 1-15.~~

18. (Currently Amended) The ~~electronic apparatus~~ device according to claim 17, wherein the device electronic apparatus is one from the group consisting of a mobile radio terminal, a pager, a communicator, an electronic organizer and ~~[[or]]~~ a smartphone.

19. (Currently Amended) The ~~electronic apparatus~~ device according to claim 17, wherein the electronic apparatus is a mobile telephone ~~[[(1)]]~~.

20. (Currently Amended) ~~An~~ The device according to claim 1, the device being fabricated in an integrated circuit ~~comprising a device (10) for generating a random sequence according to any of the claims 1-16.~~

21. (New) The device according to claim 10 wherein the width-over-length ratio of the transistors of the amplifying means is at least 3 times the width-over-length ratio of the transistors of the tail-current source, and the width-over-length ratio of a

second transistor pair of the load is at least 3 times the size of the width-over-length ratio of a first transistor pair of the load.

22. (New) The device according to claim 21, wherein the width of the transistors of the amplifying means and the transistors of the second transistor pair is in the range of 2.5-125 μm , and the length of the transistors is in the range of 0.25-12.5 μm ; the width and the length, respectively, of the transistors of the tail-current sources and the transistors of the first transistor pair of the load are in the range of 0.25-12.5 μm .